

Zschimmer & Schwarz

TEXTILE AUXILIARIES

HYDROSET ECO-DRY



THE ECOLUTION OF MOISTURE &
ODOUR MANAGEMENT



ZSCHIMMER & SCHWARZ

HYDROSET ECO-DRY

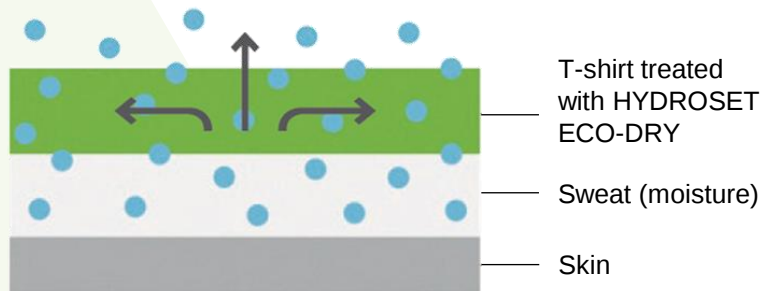
- ▶ Based on bio-polymer and microalgae
- ▶ Enhanced moisture transport and quick drying
- ▶ Provides odour control and freshness (according ISO 17299)
- ▶ Very good breathability
- ▶ Excellent durability
- ▶ Suitable for all application processes
- ▶ For polyamide, polyester and blends



HYDROSET ECO-DRY

► Definition “moisture management”:

- Moisture management is a functional property of textiles that allows to absorb moisture from the skin, transfer it over a large surface area and supports a quick drying.



HYDROSET ECO-DRY

► Odour control measurement – ISO 17299-4

	ORR * on PES micro	ORR * on PA/EL ***
40 g/l HYDROSET ECO-DRY	83 %	> 99 %
5 % HYDROSET ECO-DRY	> 99 %	> 99%
1 % conventional chemistry **	92 %	Not measured

* ORR = odour reduction rate; decomposition of isovaleric acid (IVA) measured via gas chromatography (TD-GCMS) → ISO 17299-4

** non biocide version without moisture management properties

*** 86% PA 6.6 / 14% EL with ZETESAL ECO-FIX shine aftertreatment



HYDROSET ECO-DRY

► Determination of deodorant properties (isovaleric acid = sweat smell) certified by Hohenstein Laboratories GmbH & Co. KG

Polyester microfibre sportswear

Report No. 24.0.49491 of 05 September 2024
Page 3 of 3 pages



RESULT

Determination of deodorant properties (isovaleric acid)

Method:

Condensation sampling analysis; determination using thermodesorption-GC/MS/MS (ISO 17299-4:2015)

Test result:

Sample	Detected substances in nl	Odour reduction rate in %
1 Knitted fabric, 5% HYDROSET ECO-DRY, colour black	<0.01	>99
2 Knitted fabric, 40g/l HYDROSET ECO-DRY, colour black	0.16	83
3 Knitted fabric, 1% Conventional chemistry, colour black	0.16	92
Limit of quantitation	0.01 nl	-
Note	n.d. = not determinable	

Schloss Hohenstein, 05 September 2024

Division Manager Softlines

K. Loos

Katharina Loos



Team Leader Softlines

S. Bantle

B.Eng. Stefan Bantle

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Report No. 24.0.49483 of 05 September 2024
Page 3 of 3 pages



RESULT

Determination of deodorant properties (isovaleric acid)

Method:

Condensation sampling analysis; determination using thermodesorption-GC/MS/MS (ISO 17299-4:2015)

Test result:

Sample	Detected substances in nl	Odour reduction rate in %
1 Knitted fabric with ZETESAL ECO-FIX shine aftertreatment, 5% HYDROSET ECO-DRY, colour malve	<0.01	>99
2 Knitted fabric with ZETESAL ECO-FIX shine aftertreatment, 40g/l HYDROSET ECO-DRY, colour malve	<0.01	>99
Limit of quantitation	0.01 nl	-
Note	n.d. = not determinable	

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HYDROSET ECO-DRY

- Odour control demonstration with odour pen with isovaleric acid smell

Odour reduction after 1 hour	
Untreated	--
HYDROSET ECO-DRY	o / +
Competitor odour control product	o / +

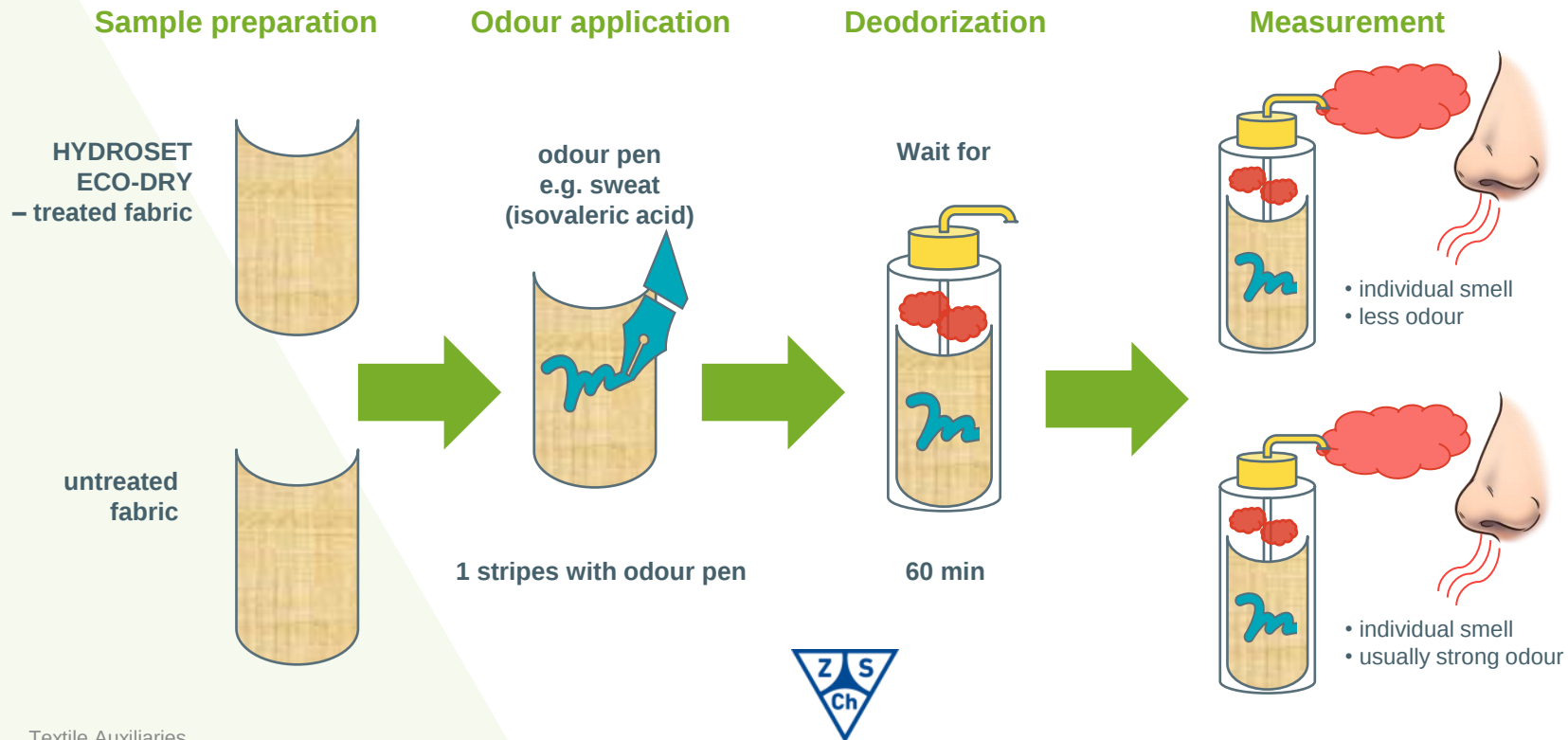
legend:

- no reduction
- still strongly noticeable
- o noticeable
- + only slightly noticeable
- ++ no longer noticeable



HYDROSET ECO-DRY

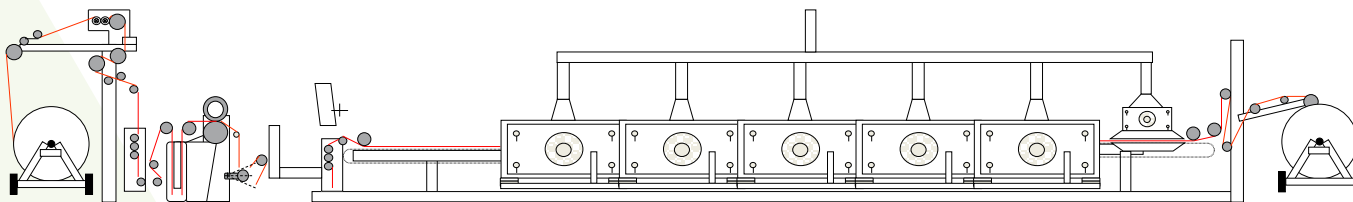
► Odour control demonstration with odour pen with isovaleric acid smell



HYDROSET ECO-DRY

► Guidelines for application

— Continuous application (pad-dry)



padding **20 – 60 g/l HYDROSET ECO-DRY**

10 – 30 g/l CEFASOFT SHD * or

10 – 30 g/l ADULCINOL T7515 *

pH no adjustment required

pick up 70%

drying 100°C – 130°C

fixation 150°C – 160°C for 2 min – 1.5 min

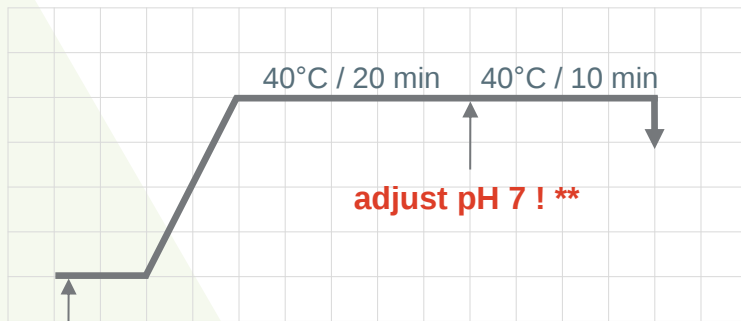
* optional, for improvement of handle/touch



HYDROSET ECO-DRY

► Guidelines for application

— Discontinuous application (exhaust)



2% – 10% HYDROSET ECO-DRY

1% – 4% CEFASOFT SHD * or

1% – 4% ADULCINOL T7515 *

pH 4-5

liquor ratio 1:10 – 1:20

* optional, for improvement of handle/touch

**** pH adjustment with
4 – 6 ml/l ALKASET AOB 1:10 solution**

Attention:

- For best and uniform hydrophilic property carefully control necessary pH 7 and keep it constant.
- Use 1:10 pre-dilution of the ALKASET AOB for pH adjustment



HYDROSET ECO-DRY

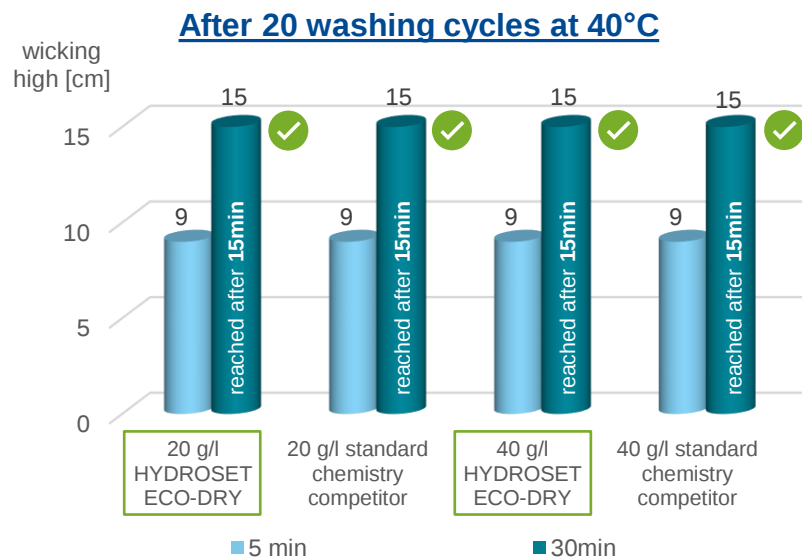
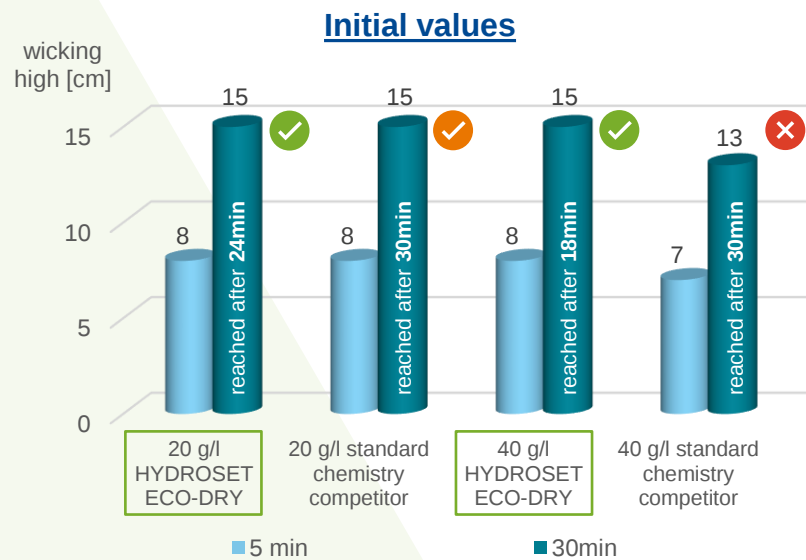
- ▶ Vertical wicking test (NIKE apparel test method)
 - Measurement of the distance of face-side migration at 5 and 30 minutes for the length and width directions for both the washed and unwashed test specimens.
 - If water has been transported 15.0 cm before 30 minutes has elapsed, report the time when this is observed
 - If the water has not been transported the complete 15.0 cm after 30 minutes, record the distance the water has been transported and the time (30 minutes).



HYDROSET ECO-DRY

► Vertical wicking test (NIKE apparel test method)

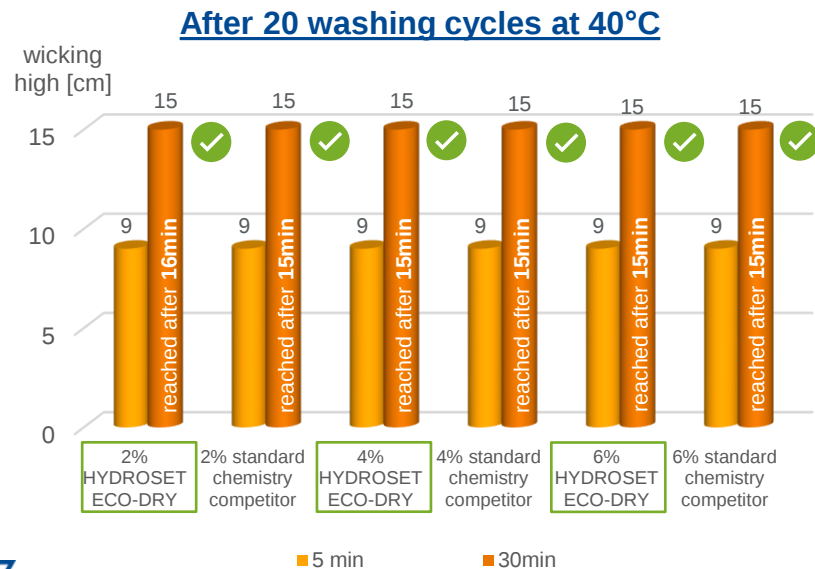
- **Pad-dry application** on 92% PA / 8% EL knitwear (with 4% anionic fixing agent)



HYDROSET ECO-DRY

► Vertical wicking test (NIKE apparel test method)

- **Exhaust application** on 92% PA / 8% EL knitwear (with 4% anionic fixing agent)



Zschimmer & Schwarz Auxiliaries

HYDROSET ECO-DRY fully complies with

- ▶ ZDHC level 3
- ▶ bluesign®
- ▶ STANDARD 100 by OEKO-TEX®, product classes I to IV

... and participate in

- ▶ The BHive® Chemical management system



ENGINEERING for

sustainable production
energy & water saving

*Considerable improvement
of CO₂ footprint*

